

## CLAIMS

What is claimed is:

1    1.    A method comprising:  
2        receiving a request to download data into flash memory;  
3        halting the downloading of the data into the flash memory until the flash memory  
4    is initialized, wherein the initialization includes storing pointers in a memory to different  
5    locations within the flash memory where the data is to be stored; and  
6        storing the data into the flash memory based on the pointers stored in the memory.

1    2.    The method of claim 1, wherein the initialization of the flash memory comprises:  
2        generating headers for the different locations within the flash memory where the  
3    data is to be stored; and  
4        storing the headers at the different locations within the flash memory.

1    3.    The method of claim 1, further comprising storing the data received from the  
2    download into a number of buffers prior to storing the data into the flash memory.

1    4.    The method of claim 1, wherein the initialization of the flash memory comprises  
2    reclaiming space within the flash memory that is reclaimable for storage of data into the  
3    flash memory.

1    5.    A method comprising:  
2        receiving a request from an external device to store data into a flash memory of a  
3    device, wherein the request includes the size of the data;  
4        initializing the flash memory of the device prior to receiving the data, wherein the  
5    initializing comprises,

6                   determining whether the size of free space within the flash memory is  
7    greater than the size of the data;  
8                   upon determining that the size of the free space within the flash memory is  
9    not greater than the size of the data, reclaiming space within the flash memory;  
10                  generating headers for each of a number of different locations within the  
11    flash memory where the free space is located;  
12                  storing the headers into the number of different locations within the flash  
13    memory; and  
14                  storing pointers, in a separate memory, to the number of different locations  
15    within the flash memory where the free space is located;

16                 transmitting a signal to the external device to transmit the data after the  
17    initialization of the flash memory is completed;  
18                 receiving the data into a number of buffers within the device; and  
19                 storing the data within the number of buffers into the number of different  
20    locations within the flash memory where the free space is located.

1    6.         The method of claim 5, wherein the separate memory is a random access memory.

1    7.         The method of claim 5, wherein the device is a cellular telephone and the external  
2    device is a server coupled to a network and wherein the data is transmitted to the cellular  
3    telephone through a wireless transmission link.

1    8.         The method of claim 5, further comprising disabling interrupts within the device  
2    when portions of the data are being written into the number of different locations in the  
3    flash memory.

1    9.         The method of claim 8, further comprising:

2           determining whether interrupts are pending in the device periodically during the  
3   time the data is being written into the number of different locations in the flash memory;  
4   and

5           periodically halting the writing of the data into the number of different locations  
6   in the flash memory and servicing the interrupts that are pending in the device upon  
7   determining that interrupts are pending.

1   10.   An apparatus comprising:

2        a flash memory partitioned into blocks;

3        a random access memory coupled to the flash memory;

4        a write unit coupled to the flash memory and the random access memory, wherein  
5   the write unit is to receive a request to download data into the flash memory and wherein  
6   the write unit is to download the data into the flash memory; and

7        an initialize unit coupled to the flash memory, the random access memory and the  
8   write unit, wherein the initialize unit is to store pointers, prior to downloading the data  
9   into the flash memory, in the random access memory to a number of the blocks within the  
10   flash memory that are free to store the data.

1   11.   The apparatus of claim 10, wherein the initialize unit is to store headers at the  
2   number of different blocks within the flash memory, prior to downloading the data into  
3   the flash memory.

1   12.   The apparatus of claim 10, wherein the initialize unit is to reclaim space, prior to  
2   downloading the data into the flash memory, within flash memory that is reclaimable for  
3   storage of the data into the flash memory upon determining that the size of free space  
4   within the flash memory is less than the size of the data to be downloaded into the flash  
5   memory.

1    13.    The apparatus of claim 10, wherein the write unit is to store the data received from  
2    the download into a number of buffers prior to storing the data into the flash memory.

1    14.    A system comprising:  
2                a server coupled to a network; and  
3                a cellular telephone wirelessly coupled to the network, wherein the cellular  
4    telephone comprises,  
5                a flash memory partitioned into blocks;  
6                a random access memory coupled to the flash memory;  
7                a processor that is coupled to the flash memory and the random access  
8    memory, the processor to execute a number of instructions, which when executed by the  
9    processor causes the processor to,  
10                receive a request, from the server, to download data into the flash  
11    memory;  
12                halt the downloading of the data into the flash memory until the  
13    flash memory is initialized, wherein the initialization includes storing pointers in  
14    the random access memory to a number of the blocks within the flash memory  
15    where the data is to be stored; and  
16                store the data into the flash memory based on the pointers stored in  
17    the memory.

1    15.    The system of claim 14, wherein the initialization of the flash memory comprises:  
2                generating headers for the different locations within the flash memory where the  
3    data is to be stored; and  
4                storing the headers at the different locations within the flash memory.

1    16.    The system of claim 1, further comprising storing the data received from the  
2    download into a number of buffers prior to storing the data into the flash memory.

1    17.    The system of claim 1, wherein the initialization of the flash memory comprises  
2    reclaiming space within the flash memory that is reclaimable for storage of data into the  
3    flash memory.

1    18.    A machine-readable medium that provides instructions, which when executed by a  
2    machine, causes the machine to perform operations comprising:  
3         receiving a request to download data into flash memory;  
4         halting the downloading of the data into the flash memory until the flash memory  
5    is initialized, wherein the initialization includes storing pointers in a memory to different  
6    locations within the flash memory where the data is to be stored; and  
7         storing the data into the flash memory based on the pointers stored in the memory.

1    19.    The machine-readable medium of claim 18, wherein the initialization of the flash  
2    memory comprises:  
3         generating headers for the different locations within the flash memory where the  
4    data is to be stored; and  
5         storing the headers at the different locations within the flash memory.

1    20.    The machine-readable medium of claim 18, further comprising storing the data  
2    received from the download into a number of buffers prior to storing the data into the  
3    flash memory.

1    21.    The machine-readable medium of claim 18, wherein the initialization of the flash  
2    memory comprises reclaiming space within the flash memory that is reclaimable for  
3    storage of data into the flash memory.

1    22.    A machine-readable medium that provides instructions, which when executed by a  
2    machine, causes the machine to perform operations comprising:

3 receiving a request from an external device to store data into a flash memory of a  
4 device, wherein the request includes the size of the data;

5 initializing the flash memory of the device prior to receiving the data, wherein the  
6 initializing comprises,

7 determining whether the size of free space within the flash memory is  
8 greater than the size of the data;

9 upon determining that the size of the free space within the flash memory is  
10 not greater than the size of the data, reclaiming space within the flash memory;

11 generating headers for each of a number of different locations within the  
12 flash memory where the free space is located;

13 storing the headers into the number of different locations within the flash  
14 memory; and

15 storing pointers, in a separate memory, to the number of different locations  
16 within the flash memory where the free space is located;

17 transmitting a signal to the external device to transmit the data after the  
18 initialization of the flash memory is completed;

19 receiving the data into a number of buffers within the device; and

20 storing the data within the number of buffers into the number of different  
21 locations within the flash memory where the free space is located.

1 23. The machine-readable medium of claim 22, wherein the separate memory is a  
2 random access memory.

1 24. The machine-readable medium of claim 22, wherein the device is a cellular  
2 telephone and the external device is a server coupled to a network and wherein the data is  
3 transmitted to the cellular telephone through a wireless transmission link.

1    25. The machine-readable medium of claim 22, further comprising disabling  
2    interrupts within the device when portions of the data are being written into the number of  
3    different locations in the flash memory.

1    26. The machine-readable medium of claim 25, further comprising:  
2                determining whether interrupts are pending in the device periodically during the  
3                time the data is being written into the number of different locations in the flash memory;  
4                and  
5                periodically halting the writing of the data into the number of different locations  
6                in the flash memory and servicing the interrupts that are pending in the device upon  
7                determining that interrupts are pending.